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THE SCIENTIFIC AMERICAN,
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(The Principal Office being at New York,)

By RUFUS PORTER.

Each number of this paper is furnished with from two to five ORIGINAL ENGRAVINGS, many of them elegant, and illustrative of NEW INVENTIONS, SCIENTIFIC PRINCIPLES, and CURIOSITIES; and contains as much Interesting Intelligence as six ordinary daily papers, consisting of notices of the progress of Mechanical and other Scientific Improvements,—American and Foreign Inventions; Catalogues of American Patents,—Scientific Essays, illustrative of the principles of the Sciences of MECHANICS, CHEMISTRY, and ARCHITECTURE;—Instruction in various Arts and Trades;—Curious Philosophical Experiments;—Miscellaneous Intelligence, Poetry and, occasionally, Music.

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TERMS OF ADVERTISING.—For 10 lines, or less, 50 cents for the first, and 12 1-2 cents for every subsequent insertion.

A Gallop on the Grand Prairie.

(A WESTERN SONG.)

Away we go on the boundless lea,
Like uncaged birds on the deep blue sea;
As blithe, as fearless, as wild and free,
On the Grand Prairie.

Away, away on our coursers fleet,
Where the grass is green, the air is sweet,
Where the earth and sky like lovers meet,
On the Grand Prairie.

Now we are leaving the forest trees;
Flying along like the fairy breeze,
Midst budding flowers and humming bees,
On the Grand Prairie.

Now Sol comes up in his proud array;
Look, look at those golden clouds that lay
Like shining curls on the brow of day,
On the Grand Prairie.

It is as if morning, fresh and fair,
Threw back her tresses of yellow hair,
To breathe the balm of the fragrant air,
On the Grand Prairie.

And there, see there is a shining stream.
Laughing along in the morning beam;
A charm, a spell, a poet's dream,
Is the Grand Prairie.

On, on we speed, there is nought in sight,
But the bending sky, so blue and bright,
And the glowing, sparkling sheen of light,
On the Grand Prairie.

It seems to me that an angel band
Passed o'er the earth with a magic wand,
And waved the beauties of fairy land
To the Grand Prairie.

Oh! night, how glorious night must be,
Where there is no mountain tower or tree,
To conceal the blaze of her jewelry,
On the Grand Prairie.

When she dons her veil of silvery blue;
When the moon is bright, the sky is blue;
When the stars like angel eyes look through
On the Grand Prairie.

Tell not of your hills, so wild and high,
Mountains that rise to the bright blue sky;
I'd rather live and I'd rather die
On the Grand Prairie.

Keep, keep the city, the burgh, the town,
Where the air is damp, the light is brown;
Give me a spot where the sun looks down
On the Grand Prairie.

Seek ye the mirth that the heart beguiles?
You'll find it not in your marble piles;
It dwells where the lips are wreathed in smiles
On the Grand Prairie.

Want ye the happiness truth imparts;
Clear heads, strong arms and noble hearts?
Come ye away from your crowded marts,
To the Grand Prairie.

Sigh ye for the love that true hearts prize;
The kindly feelings that scorn disguise?
Then come where the soul looks through the eyes,
On the Grand Prairie.

Would you see women as fresh and fair
As wild flowers in their beauty are?
Come, come from the sultry city's glare,
To the Grand Prairie.

The oppressor's tread may never stain
The glorious soil of this lovely plain,
For liberty holds her court and reign
On the Grand Prairie.

Bank Note Lyric.

Bank notes, it is said, once gold guineas defied,
To swim in the torrent of trade's swelling tide;
But ere they arrived at the opposite brink,
The notes loudly cried, "*help! cash-us we sink!*"

That papers should sink, and that guineas should swim
May appear to some folks a ridiculous whim;
But ere they condemn, let them hear this suggestion—
In pun making, *gravity*'s out of the question.

BEST MODE OF RAISING WATER.

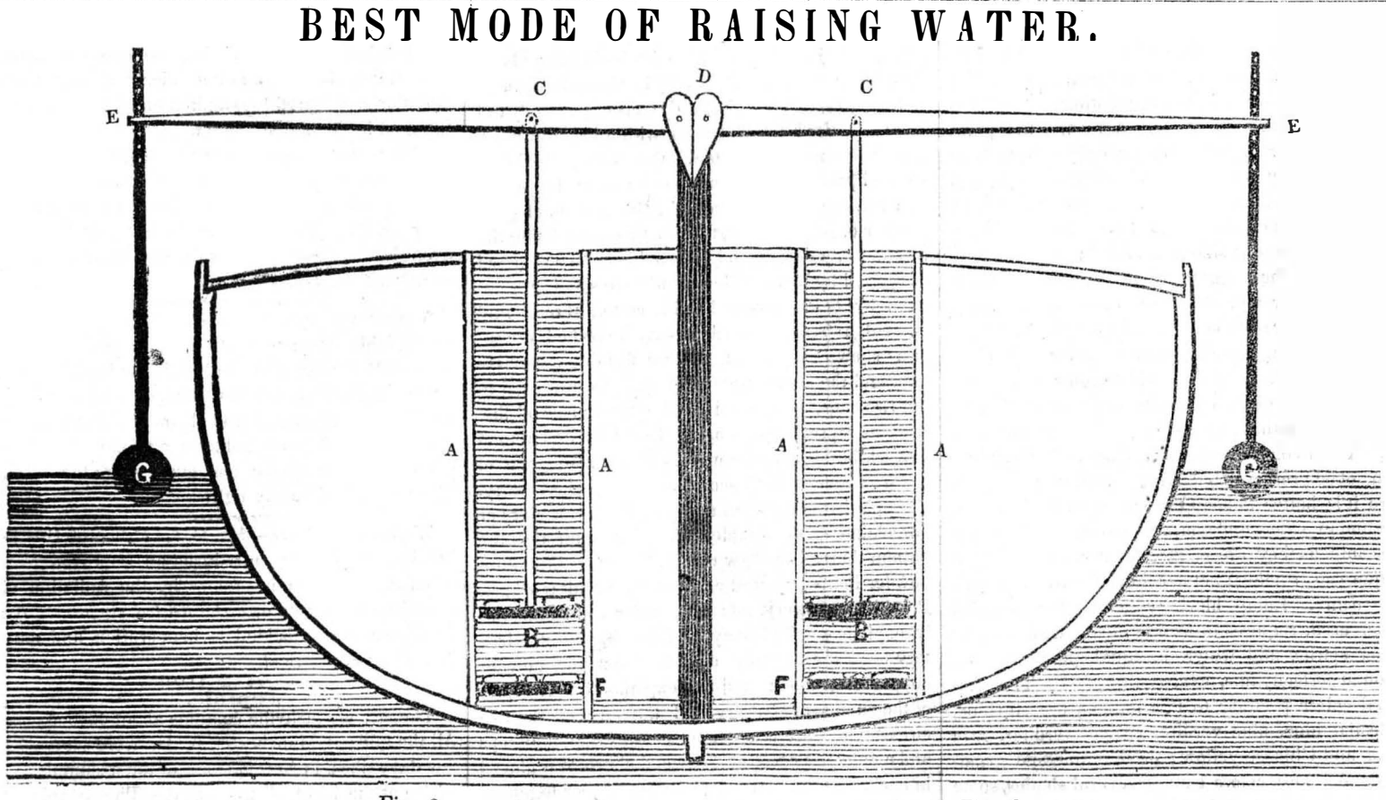


Fig. 2

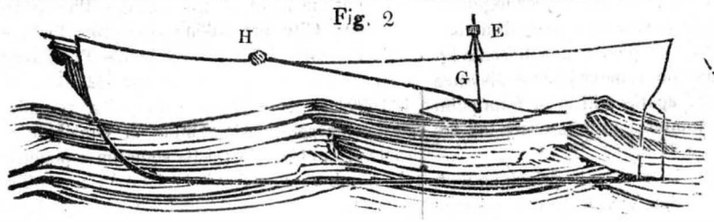
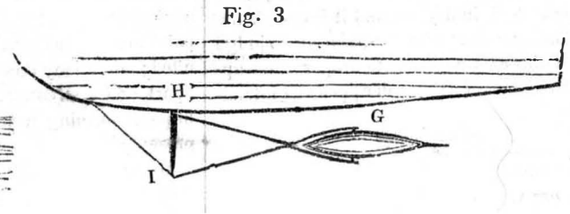


Fig. 3



INTRODUCTORY REMARKS.—We have heretofore intimated an intention of introducing an invention, which would effectually steer a ship to any point of compass without the aid of a helmsman; we have already explained the principles of electro-magnetism, so far as to shew some of the effects that may be produced by the connection and disconnection of the galvanic circuit; but as that agent can not conveniently furnish a sufficient power to govern a ship's helm, we find it requisite to introduce other subjects preliminary to that of steering. Every experienced mariner is aware of the inefficiency of the ordinary pumps used on board vessels, to keep the hold free of water in cases of extensive leakage in tempestuous weather, partly on account of their delicate construction, and liability to get out of order, but principally on account of their incapacity of discharging water in sufficient quantities, by the mere manual strength of a few exhausted seamen. To remedy this deficiency we here introduce a very simple plan, easy of construction and very permanent, by which several hundred gallons of water per minute, may be discharged, and that without any exertion on the part of the crew.

EXPLANATION.—This engraving represents a section of the hull of a marine vessel, with two pumps of peculiar construction, with sections of the apparatus for working them. The pumps, **A A**, consist of square vertical flumes, two or three feet in diameter made of planks, supported and bound together by either iron bands, or frames of timber, locked at the corners. In each flume is a horizontal piston, **B B**, also made of planks, and of dimensions corresponding with the interior of the flume; and from the centre of the piston an iron rod, **B C**, extends up to a horizontal lever beam, **D E**, above the deck. Near the bottom of each flume is a fixed seat, **F F**, also made of planks, and each seat and piston is furnished with two large clapper-valves, opening upward. The pistons are made to move freely in the flume, but require no packing, nor even a leather edging. The two lever beams above deck, are each connected by a rivet bolt to a central upright post, **D**, and from the extreme end, **E**, of each beam, a rod extends down to a buoy, **G**, which floats on the surface of the water. In this view, a section only of the buoys are shewn, which gives them a round appearance: but in the outline sketch, fig. 2, it will be seen that the buoy **G** is a revoloidal-spindle figure, which has been proved in a former number to be almost perfectly free from encountering resistance in passing through fluids. These buoys are governed and kept in place by means of double brace rods, **G H**, fig. 2, the lever-beam being shewn at **E**. **H** is an arm which projects 6 or 8 feet horizontally from the side of the vessel, as shewn **H I**, in a vertical view, fig. 3; and from the points **H** and **I**, the brace rods extends to the buoy **G**. It will be readily understood that the pumps are to be operated by the power of the buoys, moving with the undulations of the water; and that consequently, in the more rough and turbulent weather, they will operate the more powerful. The buoys with the apparatus connected, may be readily taken on board the vessel, when not required in operation, and will not be found inconvenient of stowage or management. This mode of raising water is peculiarly applicable in all cases where water is to be raised in large quantities for milling purposes or for irrigation of lands, in which cases one lever beam may be balanced on the centre post, **D**, and one of the connecting rods, **E**, may be connected to the crank of a water wheel or the piston od of a steam engine.

A RAILWAY RACE.—The editor of the London Chronicle gives the following account of an exciting scene:—"A railway race is a sufficiently exciting and interesting event; but it is rarely witnessed, and scarcely ever in perfect safety. Between a pair of well matched locomotives it would be sufficiently exciting; but between a new system, like the atmospheric, and its rival, the locomotive, the character and reputation of both systems for speed depending on the issue, a well matched contest would be of no common interest. In this case we were lucky enough to see such a race; and we believe any of our readers who leave London bridge station at twenty minutes past two, and take an atmospheric ticket, may any day see the same. We were standing at the Forest Hill station, preparing to start, when it was announced that the Dover express train was in sight! Immediately we (the atmospheric train) made preparations to start, and were just in the act of starting from rest when the locomotive train 'wisked' past us at, probably, some 35 miles an hour. We started, but before we got into motion at any velocity the Dover train was a mile ahead of us, and was evidently gaining rapidly in speed. However, on we went like a whirlwind, and it soon became evident that we were gaining on our rival. Three or four minutes decided the race. We passed the express train at a rate exceeding her own by 15 or 20 miles an hour. Our velocity could not then be less than 60 miles an hour. It was easily and steadily maintained, and we were over the Brighton viaduct and considerably beyond it before the Dover reached it."

DIAMOND CEMENT.—This article, so much esteemed for uniting pieces of broken class, for repairing precious stones, and for cementing them to watch cases and other ornaments, is made by soaking isinglass in water until it becomes quite soft, and then mixing it with spirit in which a little gum mastic and ammoniacum have been dissolved.

TENDER CONSCIENCES.—Some people have consciences so very tender that they make no use of them whatever.

TIMING THE HOUSE.—The correspondent of the Argus writes, that while Mr. Cobb, of Georgia, was speaking a few days ago, seventeen individuals crowded around him, at the place where of all other places, they might catch the Chairman's eye. As Mr. C. turned to look at the clock, to ascertain when his hour would expire, the *seventeen* braced themselves, throwing back one leg, pushing forward the head, and partly extending the right hand with the most intense anxiety exhibited in every muscle. In the middle of a sentence, down came the hammer, anouncing the expiration of the hour. "*Go!*" shouted a waggish member from Alabama, at the top of his voice, and instantly the seventeen sprang to their feet, crying, "Mr. Speaker," as loud as they could bawl! Ladies in the gallery were frightened into hysterics, an immense roar of laughter echoed through the Hall, while Mr. Holmes of South Carolina, was seen, with horror depicted in his countenance, counting, with his pointed finger, the numerous aspirants for the floor. It was a rich scene, one which would have made Hogarth's pencil laugh.

ANCIENT BRONZE—*For Cutting Instruments.*—Copper 100 parts, tin 14 parts, when hardened and tempered after the manner of the ancients, will yield an edge nearly equal to that of steel. Several analyses have been made of ancient instruments whence it appears that the proportion of tin varies from 4 to 15 per cent, which tends to prove that more depends on the exact mode of tempering the alloy, than on the relative qualities of the ingredients. Zinc and tin are inadmissible in bronze for this purpose. One or two per cent of iron might, nevertheless, be added with advantage. The ancient bronze used for springs, contained only 3 to 4 per cent of tin.

GREAT BELL FOUNDRY.—We learn that 258 bells averaging 534 lbs. each, have been cast at the extensive foundry of Mr. Andrew Meneeley, in West Troy, during the past year—just 113 more than in 1844. Five of these bells were for the fire department of New York city.

A NEW MODE OF RAISING TOBACCO.—The following which is worthy of the Parisian *bohemiennes* occurred at Pittsburgh, where everything and every, body smokes. A colored man, who was very partial to the weed, but whose exchequer prevented the indulgence, met a little boy abont three years old on Fourth street, and accosted the little urchin with—"How dare you smoke a cigar? Throw it away this instant, you little white rascel, or I'll tell your father!" The terrified boy immediately threw the stump he was smoking into the middle of the street, and scampered off. The darkey quietly picked up the castaway fragment and walked off—smoking it with as much gusto as though it had been "fresh as imported."

THAT BOY WILL BE A MAN YET.—The other day we saw a bright little boy, some seven summers old, tugging away through the snow with a large armful of wood. We were just on the point of speaking a word of praise to him, when the little fellow's feet slipped from under him and down he went, wood and all, upon the sidewalk. We expected to see him burst out a crying, when, to our surprise, he arose with much composure, saying, "darn it, I'll try that over again." With much energy of purpose he gathered up his wood, and went on his way. We'll bet a rusty copper, that that boy will yet be a distinguished man.—*Man.(N.H.)Mem.*

COMPOSITION USED IN WELDING CASTSTEEL.—Take of borax, 10 parts, sal-ammoniac, 1 part; grind or pound them roughly together, then fuse them in a metal pot over a clear fire, taking care to continue the heat untill all spume has disappeared irom the surface. When the liquid appears clear, the composition is ready to be poured out to cool and concrete; afterward, being ground to a fine powder, it is ready for use.

To use this composition, the steel to be welded is raised to a heat which may be expressed by a "bright yellow;" it is then dipped among the welding powder, and again placed in the fire until it attains the same degree of heat as before; it is then ready to be placed under the hammer.

PATENT LAWS.

(Continued from No. 19.)

SEC. 6. That any person or persons having discovered or invented any new and useful art, machine manufacture, or composition of matter, not known or used by ot ers before his or their discovery or invention thereof, and not, at the time of his application for a patent, in public use or on sale, with his consent or allowance, as the inventor or discoverer, and shall desire to obtain an exclusive property therein, may make application, in writing, to the Commissioner of Patents, expressing such desire, and the Commissioner, on due procceding had, may grant a patent therefor. Bat before any inventor shall receive a patent for any such new invention or discovery, he shall deliver a written description of his invention or discovery, and of the manner and process of making, constructing, using, and compounding the same, in snch full, clear, and exact terms, avoiding unnecessary prolixity, as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound and use the same; and in case of any machine, he shall fully explain the principle, and the several modes in which he has contemplated the application of that principle or character by which it may be distinguished from other inventions; and shall particularly specify and point out the part, improvement or combination, which he claims as his own invention or discovery. He shall, furthermore, accompany the whole with a drawing or drawings, and written references, where the nature of the case admits of drawings; or with specimens of ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention or discovery is of a composition of matter; which descriptions and drawings, signed by the inventor, and attested by two witnesses, shall be filed in the Patent Office; and he shall, moveover furnish a model of his invention, in all cases which admit of a representation by model, of a convenient size to exhibit advantageously its several parts. The applicant shall also make oath, or affirmation that he does verily believe that he is the original and first inventor, or discoverer of the art, machine, composition, or improvement, for which he solicits a patent; and that he does not know or believe that the same was ever before known or used; and also of what country he is a citizen; which oath or affirmation may be made before any person authorized by law to administer oaths.

SEC. 7. That on the filing of any such application, description and specification, and the payment of the duty hereinafter provided, the Commissioner shall make, or cause to be made, an examination of the alleged new invention or discovery; and if, on any such examination, it shall not appear to the Commissioner that the same had been invented or discovered by any other person in this country, prior to the alleged invention or discovery thereof by the applicant, or that it had been patented or described in any printed publication in this or any foreign country, or had been in public use or on sale, with the applicant's consent or allowance, prior to the application, if the Commissioner shall deem it to be sufficiently useful and important, it shall be his duty to issue a patent therefor. But whenever, on such examination, it shall appear to the commissioner that the applicant was not the original and first inventor or discoverer thereof, or that any part of that which is claimed as new, had before been invented or discovered, or patented, or described in any printed publication in this or any foreign country as aforesaid, or that the description is defective and insufficient, he shall notify the applicant thereof, giving him briefly such information and references as may be useful in judging of the propriety of renewing his application, or of altering his specification to embrace only that part of the invention or discovery which is new. In every such case, if the applicant shall elect to withdraw his application, relinquishing his claim to the model, he shall be entitled to receive back twenty dollars, part of the duty required by this act, on filing a notice in writing of such election in the Patent Office; a copy of which, certified by the Commissioner, shall be a sufficient warrant to the Treasurer for paying back to the said applicant the said sum of twenty dollars. But if the applicant, in such case, shall persist in his claims for a patent, with or without any alteration of his specification, he shall be required to make oath or affirmation anew, in manner as aforesaid; and if the specification and claim shall not have been so modified, as, in the opinion of the Commissioner, shall entitle the applicant to a patent, he may, on appeal, and upon request in writing, have the decision of a board of examiners, to be composed of three disinterested persons, who shall be appointed for that purpose by the Secretary of State, one of whom, at least, to be selected, if practicible and convenient, for his knowledge and skill in the particular art, manufacture, or branch of science to which the alleged invention appertains; who shall be under oath or affirmation for the faithful and impartial performance of the duty imposed upon them by the said oppointment. Said board shall be furnished with a certificate in writing of the opinion and decision of the Commissioner, stating the particular grounds of his objection, and the part or parts of the invention which he considers as not entitled to be patented. And the said board shall give reasonoble notice to the applicant, as well as to the Commissioner, of the time and place of their meeting, that they may have an oppertunity of furnishing them with such facts and evidence as they may deem necessary to a just decision; and it shall be the duty of the Commissioner to furnish to the board of examiners such information as he may possess relative to the matter under their consideration.

To be continued.

A FAIR HIT.—"Here, you bogg trotter," said a half dandy soaplock to an Irish laborer, "come, tell the biggest lie you ever told in yer life, and I'll treat you to a whiskey punch." "An by me sowl, yer honor's a gentleman," retorted Pat.

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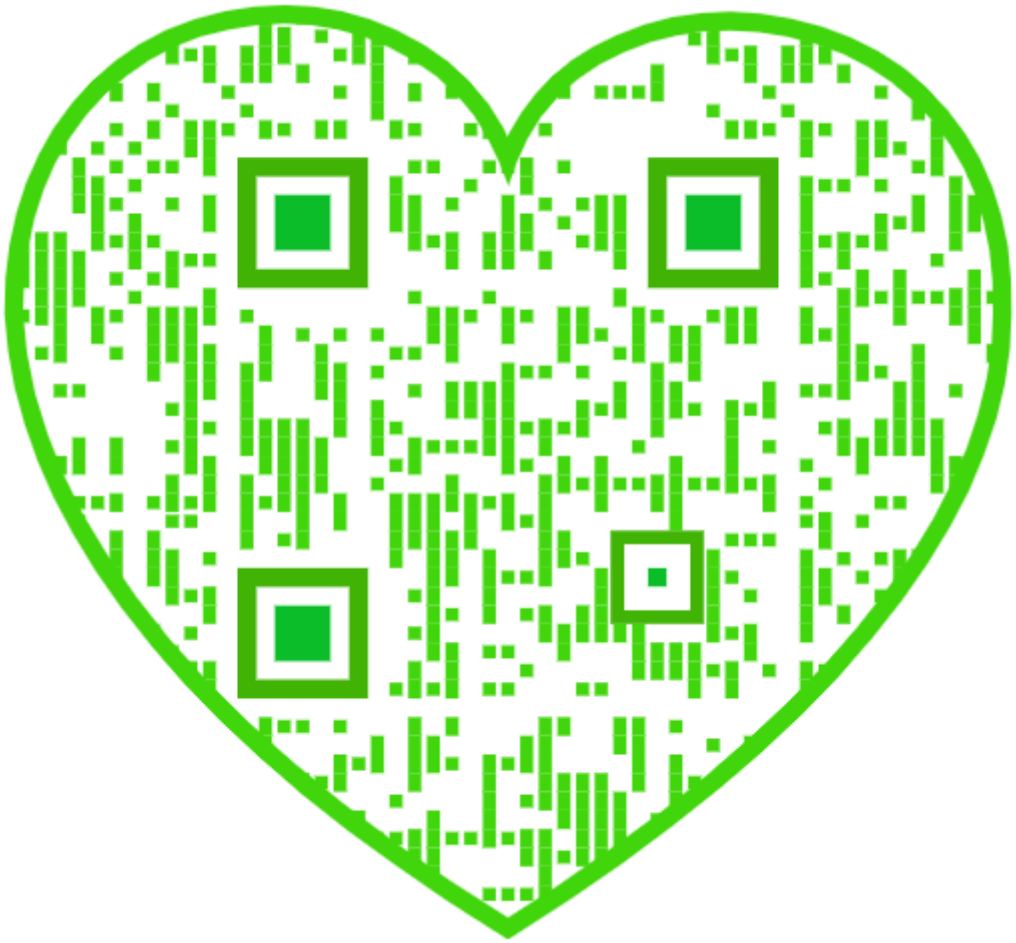
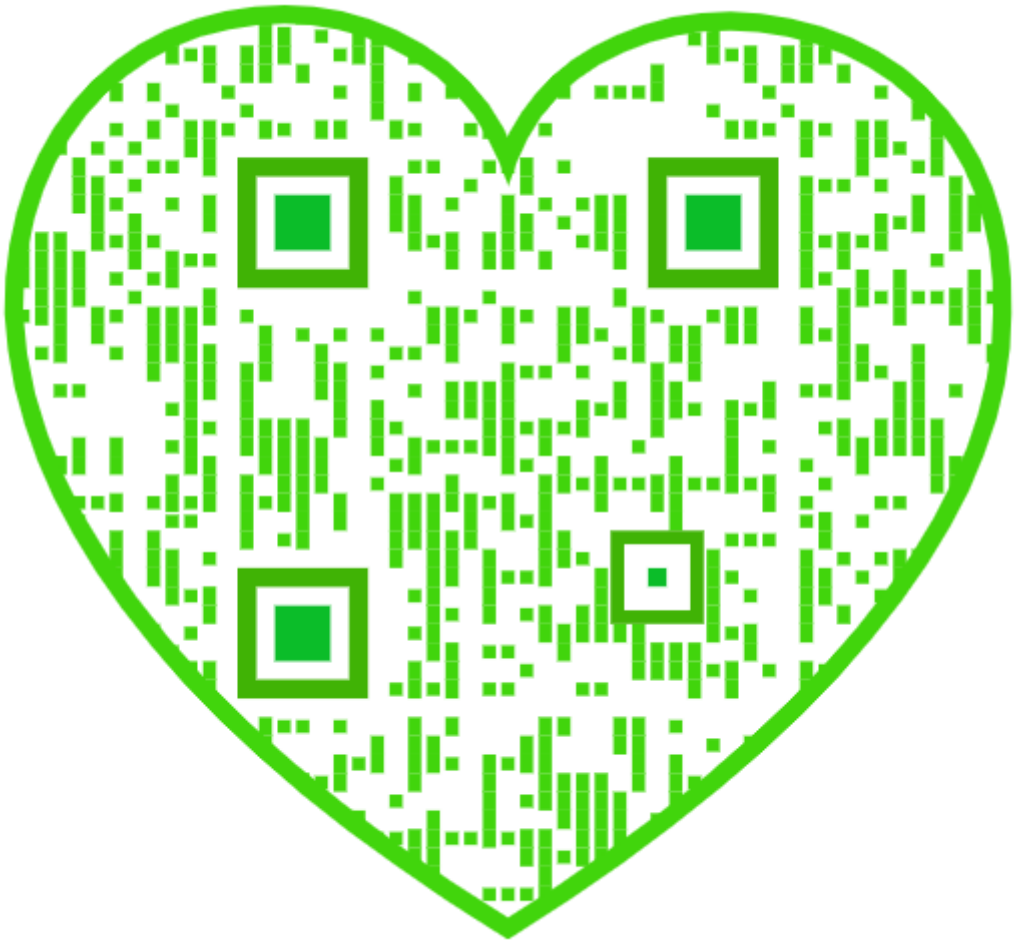




SCIENTIFIC AMERICAN

NEW-YORK, THURSDAY, JANUARY 29.

To our Patrons.—Several of those who have recently sent us cash in advance for this paper, require receipts thereof, and we had intended publishing a list of letters and money received, in the present number: but the temporary absence of our principal clerk has compelled us to defer it till our next. We beg they will not be impatient.

To Correspondents.—The intelligence required by M. S., of Jacksonville, on the subject of working, tempering, and polishing iron and steel, &c., will be given soon; perhaps in our next.

"Eegnia," is requested to favor us with an interview. J. G. and G.B. will receive answers.

Deferred to Next Number.—On account of a press of matter on hand, we are compelled to defer several valuable articles, among which is one on the subject of Golden's Mutual Credit System. We shall accommodate them in our next.

Number 3 Wanted.—Any person having number 3 of this paper, may receive 8 cents per copy, (double the original price,) by sending it to this office. 30 or more copies are wanted.

Agents Wanted.—Many travelling and local agents are wanted, to introduce and extend the circulation of this paper, in every principal village in the United States.

Science of Mechanics.

(Continued from No. 19.)

Resistance of Fluids.—(*Continued.*)—The same laws with regard to inertia. momentum, and pressure, apply in the same manner to air and other fluids, as to water. The velocity of wind may be calculated by the pressure per square foot which is sustained by a sail or board placed square with the current. The weight of air is one ounce and a quarter per cubic foot: therefore the weight of 16 cubic feet, is one pound and four ounces. Then if the velocity be 16 feet per second, the whole force exerted per second on each square foot, is equal to raising twenty ounces a vertical distance of four feet, which is the distance in which a body in falling, acquires that velocity; and as the pressure against the presented surface bears the same proportion to the weight of a column of 16 feet as the falling distance does to the velocity per second, it follows that the pressure or force is 5 ounces per square foot. As an ollowance must, however be made for the imperfect action of the wind on the surface, it is better, in calculations of this kind, to consider the weight of air to be one ounce only, per cubic foot: this would reduce the pressure in this case to four ounces per square foot. The resistance of atmospheric air, to a body moving through it, may be calculated by the same rule reversed. If the floats or blades of a fan wheel or paddle wheel, move with a velocity of 32 feet per second, then 32 cubic feet, or 2lbs. of air per second would be put in motion with a velocity of 32 feet per second, which would be equal to raising 2lb. a vertical distance of 16 feet—the distance in which a falling body would acquire the given velocity; therefore, the resistance per square foot, bearing the same proportion to the weight of the fluid, that the falling distance does to the velocity per second, would be 1 lb. By this rule if a paddle wheel, whose circumference is 64 feet, has 32 paddles, each of which presents ten square feet of face-surface, is made to revolve in the open air, with a velocity of 30 revolutions per minute, the admospheric resistance on all the paddles, would be 320 lb. to overcome which, no less than 62 pr. (19 horse power) would be required. If the velocity is doubled, the resistance will be quadrupled: being in all cases as the square of the velocity. Hence may be inferred, or even calculated, the immense loss of power occasioned by atmospheric resistance on the arms or spokes of the wheels of rail road cars; and the great saving of power that might be effected by enclosing the spokes of such wheels between two thin circular plates of iron, thus excluding such spokes from resistance and from view.—In this way nearly one half of the power might be saved, which is ordinarily employed in propelling trains of cars where great speed is required.

To be continued.

Generous Reader: If you chance to find one or more articles in this paper, which do not fully accord with your views or sentiments; or which you may think are not quite consistent with the ostensible character of the paper, do not condemn nor reject the whole on that account. We have already received many expressions of approbation, of the very same articles which have been the subject of complaint with others: and those which are the most interesting to you, may be esteemed insipid or objectionable by another. We shall improve by experience, and shall be ever ready to change our course whenever we may find good reasons for so doing.

Music.—Some of our readers will remember that we were sometime since disappointed in our efforts to procure music plates for this paper. Every man whom we engaged to furnish them, disappointed us. We have now in course of preparation, a font of musical characters, which will be easy to learn, and will be much more compact and convenient for music printing than the ordinary kind. We expect to introduce them next week.

Please aid us.—We have received many letters, —several within the week past,—from persons who profess to have by mere chance, seen a solitary copy of this paper, and express regret that they had not heard of it earlier. We would therefore solicit the favor of our generous patrons, that they will communicate information to *their* associates and acquaintance, concerning this publication.

The Art of Painting.

(Continued from No. 19.)

Painting in Opaque Water-colors.—It was intimated in the commencement of this series, that no inconsiderable part of the art of painting, consisted in that of ornamental and fancy painting in water colors, or what is by way of distinction termed kalsamine painting. The most elegant scenery, the most splendid panoramas, and brilliant landscapes are produced with colors ground and mixed with water, and tempered with allum, glue, or isinglass, to harden and render them permanent. The usual proportion of ingredients used in the preparation of the menstruum for this work, is one pound of fine white glue, and two ounces of allum to two gallons of water. For more delicate work, and where the smell of the glue would be objectionable, gum arabic, or even rice glue, may be substituted. The allum may be dispensed with, but its presence tends to secure the work against injury by water. Nearly all the different colors and pigments used in oil painting, with the exception of white and red lead, are also used in this branch, besides a great variety of other bright and brilliant colors, prepared expressly for this kind of painting, Spanish white, (usually called *whiting*,) and Paris white, constituting the bases of most of the light tints. The tools used, consist of all the variety of brushes and hair pencils, that are used in oil painting, besides various large and flat brushes peculiar to water painting, and not used in oil. In theatrical scenery painting, which is principally executed on canvas, the cloth must be first sized with thin paste, and dried, before the colors are applied; but in painting on plastered walls, no preparation is necessary; and this paint being in general much more perfectly opaque than oil paints, only one coat is required to produce a full opaque and uniform body. The colors are first mixed with water, to the consistence of masons' mortar, before the glue sizing is added; they are then diluted with the sizing to a convenient consistence for working freely. In the progress of the work, when the colors become too thick or stiff by evaporation, they must be diluted with water instead of the sizing; otherwise they will become so strongly tempered with glue, as to be in danger of cracking at the surface in the course of time, if not immediately. These colors when once mixed with the sizing, can not be preserved but a few days at most; wherefore it is better to keep the paints on hand, ready ground in water, and temper them in small quantities only, as they are wanted for use. The whites require no grinding; neither do venitian red nor yellow ochre. Lamp black, which is the principal black used, requires to be first mixed with rum, or other spirits, and water, in equal quantities, and ground perfectly fine, before being used. The principal colors peculiar to this branch, are slip blue, celestial blue, blue verditer, green verditer, rose pink, and Chinese yellow; these require no grinding. All these colors change several shades, some more and some less, in drying, and it is one of the principal points in the art of water-painting, to judge the extent of this change, so as to prepare and apply such colors and shades as will appear as intended, when dry.

To be continued.

An Important Fact.—It is satisfactorily ascertained by those who have duly examined the subject, that more than four-fifts of all the inmates of the State Prisons, Penitentiaries, Poor-Houses, and of those who commit suicide, or suffer with malignant or painful diseases, and of those who are illtempered or quarrelsome, suffering the misery of continual family jars, are, or have been addicted to the immoderate use of intoxicating liquors.

Lightning in Harness.—The ingenious electromagnetician, Davenport, is, (or has recently been,) at Williamstown, Vt. exhibiting the operation of his curious machine, by which electricity is made to perform many curious branches of business, such as hammering iron, sawing wood, and moving an arrery of artificial planets. Its operations are performed with perfect docility, though some of them with *lightning speed.*

Stick to That.—The American Mail Company have given notice that should Congress raise the rates of postage, the company will re-commence operations. We regret that the postage on newspapers, within 30 miles of the places of publication, was wholly abolished; but any act of Congress raising the price of letter postage, would prove as good as a dead letter.

A Big Factory.—Tiberius used to say that he once saw a house that was the biggest house that he ever saw. We are reminded of this by the description of a factory building now in progress of erection in Hull, Eng. It is five-hundred feet long, eighty four wide, and four stories high; and supposed to be the largest in the world. We are far ahead of them in the *stories*, however, if not in dimensions.

Preserving Pumpkins.—An article is travelling the rounds, on the subject of the best method of preserving pumpkins entire. But the best plan that we have seen proposed, is that of paring and cutting them by suitable machinery, drying them per quantity in kilns, and then grinding them to meal, in which state they may be kept sound for years. This plan was projected by our friend Mr. Bull, and we hope to see it soon brought into practice.

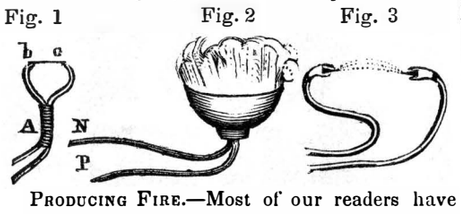
Only one Mile.—We find in an exchange paper a curious calculation, which goes to shew that the entire population of the United States might stand, conveniently, on one square mile of ground. It must be admitted that the square mile would be rather "thickly settled."

Quaint Grammar.—It is stated in one of our exchanges, that "to melt hog's lard over a gentle fire, and stir in it flour until it becomes a paste, is said to be an excellent grease for wagons, &c." Our grammatical readers will of course understand wherein the "excellent grease" consists, knowing that "the infinitive mode, or part of a sentence, sometimes stand as *nominative* to a verb," &c.

Galvanism.

(Continued from No. 19.)

Fig. 1 Fig. 2 Fig. 3



Producing Fire.—Most of our readers have heard of the application of electricity or galvanism, to the purpose of blasting rocks, and kindling fires; and much curiosity has been heretofore excited, to know how Colt's destructive Submarine Battery was exploded; wherefore we shall endeavor to throw some light on these subjects. It has been before remarked, that for the production of heat, quantity rather than intensity of the galvanic fluid is required; and this is produced by using a single pair of large plates, or by connecting several plates directly, uniting the copper with copper and zinc with zinc, (or platina with platina.) A battery thus connected being put in operation, and the two opposite poles being connected by a small wire, this wire will become heated in a greater or less degree according to the extent and strength of the battery. The usual mode of illustrating this heating property, is to attach a wire of ordinary size, about one-twelfth of an inch in diameter, to each pole of the battery, and having brought the two opposite ends of the wire nearly together, connect them by a very small wire, or a strip of thin metallic plate; the connecting piece, which may be two or three inches in length, will thus instantly become not only red hot and melted, but will burn with a brilliant light. A connection of iron or steel is the most readily burned, and presents a brilliant combustion; but a platina connection is preferred for the ignition of gunpowder or other combustables; this metal being the most readily heated and least liable to be consumed or injured by heat. The circuit wires, being insulated by being covered with cotton thread and painted, as before described, may be lashed together as shewn at A, fig. 1, without forming a connection, and the connecting piece may be attached to the two ends, by being lashed with a piece of fine wire, as represented at b, c. It will be understood that while this arrangement is being made, one of the wires must be disconnected from the battery. This platina connection may be placed in a glass or porcelain cup, the doubled wire passing through the bottom thereof, as shewn in fig. 2. Put a little gunpowder in the cup, and connect the circuit wires, N, P, with the battery, and the powder will be instantly exploded. This may be done although the battery be at the distance of miles from the powder cup, or magazine; and this explains the principles of the submarine battery. If the ends of the two circuit wires, are made to terminate in small forceps and a pointed pencil of boxwood-charcoal is placed in each, and the two points brought near together, a succession of electric sparks will pass from one point to the other, and the points will become ignited; they may then be removed some distance apart, and a stream of sparks will pass from point to point, forming a luminous arch between, as represented in fig. 3.

By certain modifications of this principle, with larger pieces of charcoal, and with the use of large and powerful batteries, an exceeding intense light may be produced, and has been proposed for the lighting of cities; but at present there is but little prospect of its being adopted.

A Cheap Mode of Printing in Imitation of Medals.

The accompanying prints are produced by blocks of wood, with no other preparation than that of having a coin impressed thereon. We hope this representation will furnish satisfactory evidence that we do have, or have had, money in our possession, and we should like to have some of our brother eds try the same experiment.

Extraordinary Calamity.—We do not often notice disasters, but the following is peculiarly affecting.—The Schooner Comet was lost a few days ago, near Plymouth, N.C., and every soul on board perished. On receiving the news at Plymouth of Capt. Chase's death, his widow became distracted, and in the night, between one and five o'clock, she arose from her bed, and though severely cold, plunged into the river with both her children. Her lifeless body was recovered in the morning, but those of the children had not been found.

Liberality of Politicians.—The *Whigs* of Nashua and Nashville, N. H., presented the editor of the "Telegraph" with a patent card press worth $120 as a Christmas gift. The *Democrats* of New York presented the editor of the "Morning News" with a new set of type, worth nearly $1,000 as a New Year's present The most ostensible object of these gifts is to compensate for the "wear and tare" of the editor's consciences, in the advocacy of the deceitful manœuvres of intriguing political parties. We should think it cheap enough at those prices.

Interesting Experiment.—Place several small pieces of camphor gently in a bason of pure water, and with a red hot wire ignite them as they float; —the lumps will shoot about the surface in various directions, performing many comical antics, exhibiting a lively dance of fire-balls.

Capital Punishment.—A bill has passed the House of Representatives of Indiana, by a vote of 63 to 20, that gives to the Jury in cases of capital crimes, a discretionary power of finding that the prisoner be placed at solitary confinement in the State's Prison for life, or that he be hung.

New Inventions.

New Mode of Tanning.—All engaged in the business of tanning leather feel how extremely desirable it is to save labor, time and expense—and consumers are no less interested in any mode, which, by reducing the expense of manufacture, will, as a matter of course, lessen the price of the article. Mr. F. D. Parmele, of this village, is the inventor of a process of tanning which he thinks secures these objects. The old mode of tanning is said to require from twelve to eighteen months. Mr. Parmele's new mode requires only about one tenth as long. We have seen a specimen of sole leather tanned by this process, which seemed to be thoroughly tanned, and to be of a firm and excellent texture. We are assured that leather tanned by this new process, weighs about six per cent more than that which is manufactured in the ordinary way. The *ooze* used in the new process is precisely the same, and in the same condition, as that used in the old process. Certain machinery is used in Mr. Parmele's new process by which the hides are kept perfectly straight, and also affords many other advantages over the old way. The machinery used is of simple construction and not expensive and by means of it from one to two thousand hides can be kept in process of tanning at once, thus enabling many thousands to be turned out finished in the course of the year. We do not pretend to a competency, in matters of this kind, of judging with entire accuracy, but we are strongly inclined to the opinion that Mr. Parmele's improvement will prove to be a valuable one, and it is at least, worthy of the attention and careful examination of all who are engaged in the manufacture of leather. If this invention secures, what it so strongly promises to accomplish, and effects a great saving in labor, time and expense in this great and important branch of business, Mr. Parmele, the inventor, will have wrought out a great and valuable public benefit. —*Summit O. Beacon.*

A New Oil for Lamps.—A kind of liquid has been distilled from turpentine, which is destined to supersede the use of oil, for burning in lamps, being as we are told, somewhat cheaper and certainly much better, pleasanter and cleaner. Unlike camphine the liquid is not liable to explode, and while it neither emits smoke nor even chars the wick, gives a brilliant steady light.

Warming Houses.—Mr. E. L. Miller of Brooklyn, has successfully introduced an improved plan of effectually warming rooms by the radiation of heat from hot water, or *water heated surfaces.* An arrangement of this kind is in operation, and may be seen at 89 Clark st.

Jumble.

The city of Nashville contains about 4000 slaves All the mills at Manchester, N. H., were stopped a few days since, in consequence of the accumulation of ice at the head of the canal.—The people of Maumee City are taking measures for the improvement of the Maumee River.—The sugar crop of Louisiana is estimated at 187,582 hhds.—About 100,000 barrels of flour are annually manufactured at the several flouring mills in Cincinnati.—The roots of the Canada thistle sometimes penetrates to the depth of seven feet below the surface.—The editor of the Iowa Journal has our congratulations on an occasion which, as he says, is not likely to happen oftener than once a year.—Jacob Copendam, of Virginia, recovered a verdict of 8000, against Samson Belter for seducing his daughter.—There is a case in the New Jersey Court of Errors which has been twenty two years in litigation. This is a shameful denial of justice.—Not less than 800,000 pigs of lead were shipped from Galena last year. The weight of each pig is 70 lbs.—Ralph Waldo Emerson says there are at least five or six times in every man's life when he deserves han ging

Advertising.—This paper circulates in every State in the Union, and is seen principally by mechanics and manufacturers. Hence it may be considered the best medium of advertising, for those who import or manufacture machinery, mechanics' tools, or such wares and materials as are generally used by those classes. The few advertisements in this paper are regarded with much more attention than those in closely printed dailies; our terms are moderate, and all favors in this line will be duly appreciated.

Russia and China.—Few people in this country are aware of the immense commercial trade carried on between these two far off nations. It is stated that in 1843, Russia received 102,700 chests of superfine tea, and exported to China in exchange 660,000 yards of Russian cloth, and about $1,000,000 worth of woollen and cotton goods, besides large quantities of leather, furs, &c.

Afraid of the Light.—The emperor of Germany with the king of Prussia, have forbidden the circulation of American newspapers in those countries. The influence of the institutions of the United States is a constant source of alarm to the crowned heads of Europe, and well it may be.

Narrow Escape.—The Albany Argus relates a good anecdote of an Irish soldier at the siege of Fort Erie. His uniform coat was hanging in a tent when a shot nearly cut it in two. He immediately brought forth the tattered coat and flourished it before his companions as proof of his *lucky escape*, for, "by the powers," said he, "I was near afther *putting it on this very mornin'!*"

Behind the Age.—Some of the English journals are expressing much admiration at the discovery by the Lord Bishop of Derry, that butter can be produced by forcing a current of atmospheric air through the cream. But we happen to know that churns for this purpose were constructed and used to some extent in this country in 1837, but the invention did not succeed, to compete with other improved churns.

A Colonelless.—The Emperor Nicholas, has given his second daughter, the grand Dutchess Olga, the command of a regiment. She is in her 22d year, and is said to be an expert equestrian.

Variety

Mr. Colton exhibited and illustrated the principles of Morse's Telegraph, together with other wonders of electro magnetism, at the Society Library, on Monday evening, to a highly gratified and amused audience.

The late storm moved against the wind from Southwest to the Northeast, according to Espy's theory. It commenced here at three o' clock on Wednesday morning, and in Connecticut six or seven hours later.

At a recent levee (the first one) held at the President's House, the attendance was very large, and among the most distinguished of the company, was Mrs. Madison, in excellent health and spirits.

The Post office receipts for the last quarter, at Jefferson, N. Y., exceed those of the corresponding quarter, last year, under the old rates of postage. That is encouraging.

Several inhabitants of Batavia, O., have issued a printed affidavit, stating that a large snake whose head rose six feet above the water, was seen in a pond in that vicinity.

The Boston Transcript says that the express locomotives, on a recent occasion, ran thirty miles in thirty minutes. That speed will answer for the present, but some will not be contented with it.

The Albany Knickerbocker says that one half of the maladies that mankind labor under might be prevented if they would only take a wife at the age of twenty.

The editor of the Philadelphia Chronicle has been presented with a lemon, raised in Chester, Pa., measuring one foot in circumference, and weighing fourteen ounces.

A letter from Fort Laramie, on the Oregon road, states that the price of flour at that place, was forty dollars per barrel. It will soon be cheaper.

The Pennsylvanian says, "one iron foundry near Harrisburg, Pa., paid during the past season $10,000 for the tolls on its coal and iron transported on the canal.

The committee of the London Peace society have memorialized Sir R. Peel in favor of settling the Oregon question by peaceful, rather than by other means.

It is estimated that *eighteen hundred thousand tons* of iron will be required for the 2,891 miles of railway, the construction of which was authorised by the last session of the British Parliament.

The wheels of the engines and cars on the Austrian railroads are said to be coated with varnish and pitch to prevent both rust and noise. We doubt its efficacy for the latter purpose.

One hundred and five kegs of nails were cut the other day in nine hours, by fourteen mechanics, at the Elicot Mills, in Morgan town, Pa. It was a great day's work.

It is estimated that one half of the sum which would be requisite to prepare for war with Great Britain, would build a railroad to Oregon, and fill that country with American yeomanry.

There are eighteen persons now under sentence of death in the United States: and the civil officers of divers States and Counties, are bound by law to murder this number within six months.

The Editor of the Union, the Government paper, announces his intention to conduct that paper on the cash principle. It is the safest, if it can be carried out in Washington.

Hon. Robert Rantoul, of Mass. recently stated that all the distinguished lawyers of France had petitioned for the total abolition of capital punishment.

A planter, in Attakappas, La., lately paid a bricklayer fifty dollars for eight day's work. It is difficult to get good mechanics there at any price.

It has been remarked that a long nose never spoils a handsome face. Cause why:—a handsome face never has a long nose.

Twelve hundred and ninety seven tons of ice were exported from this port during the month of December last; of which 500 tons were for Calcutta.

A new carpet factory has been recently put in operation in Danverse Mass. It is expected to work up 200 lbs. of wool per week.

The Parish of Nachitoches, La., is said to contain 30,842 acres of cotton, and 15,775 acres of corn fields, and nearly 7000 slaves.

It is estimated by a New Orleans paper that the liquor sales at the bar of the St. Charles Hotel, in that city, amount to *one hundred dollars per hour.*

One of the George Western's sayings is, that the times were once so hard in Michigan, that the hens laid wooden eggs.

A catfish was lately caught in the Ohio River, at the mouth of the Kentucky, which weighed 133 lbs. It was large enough for a *dog* fish, if not larger.

A large pike, sometime since, seized the head of a swan, in Lord Gowa's canal, and gorged so much of it that both the fish and the bird were killed.

Capt. Fremont, the hardy explorer of the Western wilds, is said to be a very slender person, and has quite a youthful appearance for a leader of such an expedition.

A man named Hough, of Cincinnati, has been mulcted in the sum of $1700, in a case of seduction, and $2750, for a breach of promise to another girl.

The late storm had the effect to materially detain the railroad train, as well as other mails, some of which were twenty-four hours behind the time.

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Come Away!

BY D. MANSFIELD.

O! come—come away, for time's career is closing;
Let worldly care henceforth forbear;
O! come—come away!
Come, come, our holy joys renew;
Where love and heavenly friendship grew
The Spirit welcomes you.
O! come—come away!

Awake! awake! no time now for reposing;
"The Lord is near!" breaks on the ear;
O, come—come away.
O, come where Jesus' love will be,
Who said, "I meet with two or three."
Sweet promise made to thee;
O, come—come away.

Come, where sacred song the pilgrim's heart is cheering;
Come, and learn there the power of prayer;
O, come—come away.
In sweet notes of sympathy,
We praise and pray in harmony—
Love makes our unity;
O, come—come away.

Night will soon be o'er, and endless day appearing,
You leave the gloom for your sweet home;
O, come—come away.
These words in trumpet-tone resound,
And the dark, cold, sepulchral ground
Confesses Jesus crowned.
Then come—come away.

There's Beauty Everywhere.

There's beauty in the washing wave,
When the storm is raging high—
There's beauty in the quiet stream
As it gently glideth by.
There's beauty in the cloudless night
When stars are shining clear,
Or darkness shuts them from the sight—
There's beauty everywhere.

There's beauty when the morning dawns
And gives to earth her light,
And when the fading sun proclaims
The slow approach of night.
There's beauty in the verdant lawn
When buds their blushes wear,
And when the ice-king holds his court,
There's beauty everywhere.

There's beauty when the Christian kneels
In humble prayer to heaven—
When o'er his soul hope sweetly steals,
And tells of sins forgiven.
There's beauty in the merry sounds
That float upon the air,
When music breathes a happy strain—
There's beauty everywhere.

It Snows! It Snows!

It snows! it snows! from out the sky,
The feathered flakes, how fast they fly,
Like little birds, that don't know why
They're on the chase, from place to place,
While neither can the other trace.
It snows! it snows! a merry play
Is o'er us on this heavy day!

As dancers in an airy hall,
That hasn't room to hold them all,
While some keep up, and others fall,
The atoms shift, thick and swift,
They drive along to form the drift,
That weaving up, so dazzling white,
Is rising like a wall of light.

But now the wind comes whistling loud,
To snatch und waft it, as a cloud;
Of giant phantom in a shroud:
It spreads! it curls! it mounts and whirls,
At length a mighty wing unfurls!
And then, away! but, where, none knows,
Or ever will.—It snows! it snows!

To-morrow will the storm be done;
Then, out will come the golden sun;
And we shall see, upon the run
Before his beams, in sparkling streams,
What now a curtain o'er him seems.
And thus, with life, it ever goes:
'Tis shade and shine!—It snows! it snows!

A TECHNICAL TOAST.—The following was given at a recent Typographical celebration in Baltimore:

Woman:

"The sweetest *types* upon the earth;
The prettiest *forms*, the fairest *faces*,
The loveliest *flowers* that e'er had birth;
That ever clung to man's *em-braces*."

THE FEMALE EYE.—John Smith says that "the female eye has the following variety of expression: The glare, the stare, the leer, the sneer, the invitation, the defiance, the denial, the consent, the look of love, the flash of rage, the sparkling of hope, the languishment of softness, the squint of suspicion, the fire of jealousy, and the lustre of approbation and pleasure." He forgot to mention that peculiar bashful glance, denominated "sheep's eyes."

A SLIGHT PUZZLE.—An orchard contained 36 trees in six aqual rows of six each. Six of the trees died, still there was an even number in each row both ways. If any of our readers will send a draft representing the order of the remaining trees, after the six were removed, we will furnish an engraving thereof in the succeeding number.

RIGHT.—"Does Wright write 'rite' right!" enquired a schoolmaster of his assistant, concerning the performance of a boy named Wright, who was writing from a copy in which the word "rite" occurred "Perfectly right," answered Wright.

"RICHES TAKE TO THEMSELVES WINGS," &c.—Two brothers in Maine, by the name of Rich have lately been married to two sisters by the name of Wings, and removed to Illinois.

The Magnetic Telegraph.

THE TELEGRAPH PRICES.—The New York and Boston Telegraph Association have fixed the prices of communications consisting of fifteen words or less, according to the following scale:

	Bostn.	Wo'str.	prngfd.	Hrtf'd.	NHvn.	Brgpt.	NY.
Boston,	0	10	15	15	15	15	25
Worcester	10	0	10	10	15	15	15
Springfield	15	10	0	10	10	10	15
Hartford	15	10	10	0	10	10	15
NewHaven	15	15	10	10	0	10	15
Bridgeport	15	15	10	10	10	0	10
New York	25	1u	15	15	15	10	0

RULE—The angle of the two places, brought into correspondence, indicates the amount of charge.

For every addition of ten, or a less number of words, add to the charge 5 cents.

The name of the sender, the address of the communication, and the necessary directions, *gratis*.

The offices in New York and Boston are to be kept open day and night—the first applicant to be first served.

No individual shall use the Telegraph for more than ten minutes at a time, while another is waiting.

Officers of the State, United States, or Police, in great public emergencies only shall have the preference for a reasonable time.

The arrival of every steamer shall be telegraphed gratis at every station along the line, as soon as publicly known at New York or Boston.

The line between Boston and New Haven is nearly ready to commence operation. A continuous line from Washington to Boston will be completed early in the Spring.

We are informed that the line between Philadelphia and this city, is nearly completed, and is already in operation as far as Newark. Some little delay has been occasioned by the difficulty of extending the line across the North River. The probability is that the wire will be eventually carried in an elevated position, supported by lofty masts erected on piers, or by aerial floats. The line from New Haven to Boston, and that from Albany to Utica, are nearly ready for operation. There is no question but that the telegraphic science in this country is far ahead of any thing of the kind in Europe, and will not soon be overtaken.

1. A WATER-PROOF GLUE—Melt common glue in the smallest possible quantity of water, and add, by drops, linsed oil that has been rendered drying by having a small quantity of litharge boiled in it; the glue being briskly stirred when the oil is added.

2. Glue will resist water to a considerable extent by being dissolved in skimmed milk.

3. The addition of finely levigated chalk, to a solutiun of common glue in water, strengthens it, and renders it suitable for signs or other work that is exposed to the weather.

4. A glue, or cement, that will hold against fire or water, may be made by mixing and boiling together linsed oil and quick lime. This mixture must be reduced to the consistence of soft putty and then spread on tin plates and dried in the shade where it will dry very hard. This may afterward be melted like common glue, and must be used while hot.

CENTRIFUGAL FORCE.—A correspondent, who writes from Manceester, N. H., enquires what is the amount of the centrifugal force, exerted by each blade of a beater when in operation; the weight of each blade being 5 lbs., its distance from the centre of motion 7 inches, and the velocity 1800 revolutions per minute. We answer by the rule: first dividing the number of revolutions per minute, (1800) by 60, to find the number per second, which is 30. The square of 30 is 900, which being multiplied by double the radious, 14 inches, produces 12,600. This, multiplied by 1-20 of the weight of the blade —,25 (1-4 of 1 lb.,) gives the answer 3,150 lbs. Our correspondent need not be surprised, that these blades sometimes fly off from the arms, considering the immense force which constantly urges them from the centre.

REFINEMENT IN LANGUAGE.—A late writer has made some injudicious remarks on the too frequent and improper use af the word "got," and gives the following examples in illustration thereof:

I rose early, and after dressing as speedily as possible, I breakfasted, and proceeded by the omnibus in time to see my friend. I induced him to listen to the particulars, and obtained his assent to the measure proposed, on condition that I succeeded with the other parties, which, indeed, I had already done.		I got up early, and got myself dressed as quickly as I conld; I then got my breakfast in all haste, and got into an omnibus, that I might get to my friend's house before he got away to business. I soon got him into a yielding humor, and got his consent to the plan, provided I could get that of the other parties, which indeed, I had got already.

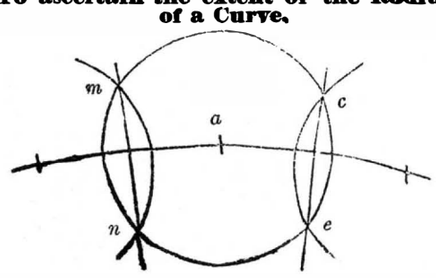
EMIGRATION TO TEXAS.—A letter from Harts, Germany, says:—"The emigration from our mountains for Texas, have lately been so numerous, that several of the villages are entirely deserted. In less than three months, more than six thousand persons had quitted the country, to tempt fortune at a distance of four thousand leagues." A Western paper states that more than forty wagons, bound for Texas, had crossed the Mississippi, near the Red River, in one week.

WASTE OF THE PUBLIC MONEY.—It is stated in the Worcester (Mass.) Christian Citizen, that the salaries of such officers of the U. S. Navy, as have been doing nothing, but waiting for orders during the year past, amount to the round sum of $444,170. This looks rather more *knavish* than *naval*.

A NEW GAME.—There are said to have been several anonymous letters lately received by different individuals, in which they are promised some important and highly advantageous intelligence, on condition of a small remittance in cash to the writers. Those who are thus gulled, generally keep dark on the subject.

WAFERS.—We have recently procured a box of of the most *durable* kind. The most effectual mode using them, is to put them in soak in hot water over night previous to applying them as letter fasteners

To ascertain the extent of the Radius of a Curve.



Place one leg of the dividers on any part of the curve line, as at *a*, and describe a small circle. Remove the dividers to another point on the curve line, somewhat less than the diameter of the circle, from the first point, and describe a curve that shall intersect the periphery of the circle in two places, as at *c* and *e*. Again remove the dividers to about an equal distance on the opposite side of the circle, and describe another curve which shall also intersect the circle, as at *m* and *n*. Then draw a straight line through the points or intersections of each elipsis *c e*, and *m n*. Measure the distance between the two straight lines at their intersections with the original curve line: also measure the distance between the said lines at a point one foot distant from the curve line, inward; subtract the lesser distance from the greater, which divide by the difference, and the quotient will show the radius in feet and decimals.

The Poet's Cabin.

A
man
who can
make his tools
and plan a set of rules
whereby to make
a plough or sled or rake
or in the woods his timber cut
wherewith to build a cottage, house or hut
and shape each part and piece with care and calculation
to match each other
when bro't together
both post and sill, or beam and brace
each mate its mate and fill its place
this man 's entitled to the appellation
of worthy citizen—man of reputation.
Why should wesul'r those who noth'g know
that's useful but contrive to make a show
of spouting eloquence, to rule & domineer
o'er those in whom full pow'r of mind appear?
this is not right: this fault we must correct
and worthier men than those we must select
to mak' our laws: and if there's one more worthy than the rest
an honest, wise and capable Mechanic is the best.

ADVICE TO LADIES.—The Ladies will, we presume, give us the credit of having generally so far attended to our own business, as to say but little to molest them in the enjoyment of their favorite fashions, manners or fancies; but lest we should be suspected of too much indifference toward them, we shall venture a few hints, by way of cautionary advice, which, if fully regarded and followed, will tend to prevent many unfavorable remarks from their friends of both sexes.

First then, when at parties, or in company with friends, do not be forward in conversation, for it shows conceit, or a desire to attract attention. Do not be reserved or backward in conversation, for it indicates a want of vivacity, or a disregard to the company. Do not laugh or smile much; it denotes weakness of mind. Do not look grave or sedate; for it indicates dissatisfaction with the company or conversation.

When addressed by a gentleman, do not look in his face; for it denotes boldness. Do not look down, for it has the appearance of bashfulness. Do not look away in another direction, for it will appear as if you wished to evade conversation with him.

When at church, do not look cheerful, for it indicates a want of reverence. Do not look serious, for it will appear like affectation of piety. Do not appear attentive and look up to the preacher, for you will be suspected of a desire to show your face.

When promenading in Broadway or any popular street, do not look about to the right and left, as if you had never seen a city before. Do not look at the people whom you meet, it will indicate a desire to be seen; or you may be suspected of desiring to meet an acquaintance. Do not look down, for it denotes gloom or melancholy if not guilt. Do not look straight forward, for it indicates a desire to escape or evade observation.

Alphabet of Short Rules,—*Improved.*

Attend well to your own business.
Be punctual in all your engagements.
Consider well before making engagements.
Do right in all things, without fear.
Envy no man his apparent prosperity.
Fret not at disappointments.
Give liberally to the suffering poor.
Hold fast your integrity.
Infringe on no man's rights.
Judge not others severely.
Keep away from evil company.
Lend to those who cannot buy.
Make no display of your charities.
Never profess what you do not practise.
Occupy your time in usefulness.
Pay every one their just dues.
Quarrel not with your associates.
Remember your dependence on Providence.
Strive to promote the happiness of others.
Treat every one with civility.
Use the things of this world with discretion.
Vilify no person's reputation.
Watch against every temptation.
X-amine your own character.
Yield not to the persuasion of the vicious.
Zealously pursue the path of duty,
& hope for everlasting joy.

MAKING GREAT MEN.—B. F. Hallit says, and no man better knows, that all the great men in the country, are made such by the newspapers; puffing them, and reporting their speeches much better than they can make them themselves.

Foreign Intelligence.

Tae Steamer Hibernia arrived at Boston on Friday morning, bringing European intelligence up to the 3d inst.

We are gratified to learn by this arrival that our neighbor John Bull, was not quite so much excited by President Polk's Message, as he expected to be. The prospect appears quite pacific, and the war party here have but little encouragement to bluster.

The Cambria made her passage out in eleven days. The English speculators appear to be moving in earnest in the project of a continuous railroad from Halifax to Oregon, and confidently anticipate extraordinary encouragement from Government.

An extraoadinary casualty occurred at Liverpool on the 1st, inst. by which several lives were lost, and much valuable property destroyed. It was no other than an artificial deluge, occasioned by the bursting of a metallic water tank, belonglng to the Harrington water works, and containing 200,000 gallons of watcr. Several houses were demolished, two women and a child were drowned, and several other persons seriously injured.

Mr. Georgo Smith, of Manchester, has invented an improvement in the Magnetic Telegraph, which as is usual with even frivalous inventions, is lauded by the English press. No description of the invention is given whereby we can judge of its merits.

The Dutch East India papers state that several shocks of earthquake had been felt at Ambroyna, by which the Government House and several other buildings were seriously injured. The motion of the earth was vertical, and accompanied by a heavy rumbling sound.

REVOLUTION IN MEXICO.—General Paredes, having become dissatisfied with the measures and movements of the Mexican Government, and perhaps entertaining some ambitious propensities, has marched upon the capital at the head of 8000 troops. The Government forces in the City of Mexico having, on the 30th ult., *pronounced* against the administration, President Herera capitulated, and transferred the supreme power to the Usurper, who entered and took possession without opposition. Mexico has thus again come under a Monarchy, having plainly, shews that there is not virtue enough in the people to govern themselves. What effect this may have on the affairs between that country and the United States remains to be seen, though there appears to be no alarm nor anxiety on this account amongst our politicians at present. Parides is said, however, to have evinced less hostility towards the American Minister, then his predecessor.

For the Scientific American.

"FRIEND PORTER,—I find, in looking over the "New York Mechanic," of Dec. 11, 1841, an article entitled "Atmospheric Resistance," wherein it is stated that it would not be difficult to calculate the velocity which would be required in the wings of a wild pigeon to support the weight of a man.—and I should like to know what velocity it would take, and the amount of power it would require to support a man weighing 150 lbs.; and further: I should like to know what amount of face surface could be worked to the greatest advantage, and with the least amount of power, to sustain in the open air the above weight, together with the least amount of power that would be required.

"By answering the above in your "Scientific American" you will oblige your constant subscriber and friend YANKEE."

ANSWER.—Our correspondent has not, in his first question, premised the size of the wings, wherefore we will suppose them to be equal to one square foot each. Two wings of this size would require a velocity of 260 feet per second, to support a weight of 150 lbs., provided they were so constructed as to meet with no resistance in their upward motion, and that the velocity, in each vibration up and down, was equal. Each wing, in its downward motion, must of course, encounter a resistance equal to the whole weight sustained. The quantity of power required to work the wings, would be about 65 horse powers. With regard to the size of the wings or face-surface, as a matter of economy in power, the larger the better. If the face surface is 30,000 square feet to each wing, only about half of one horse power would be required to sustain this weight; and if the wings were ten times as large, the strength of a man would be amply sufficient to work them and elevate himself, together with the wings or apparatus, if it were not made too heavy. Flying materials being cheap just now, perhaps our friend will make the experiment.

GRAHAM'S MAGAZINE, for February is before us, and is in no wise inferior to its predecessors. It is embellished with the usual variety of superb engravings, the first of which represents Catharine Seaton, a most exquisite line engraving. The second is the Young Astronomer, a splendid picture by Ellis. The "Paris Fashions." is executed in a style unprecedented. The publishing office is in the Tribune Buildings.

THE MECHANIC'S COMPANION.—We have procured a few more copies of this invaluable work, which we shall sell at the publisher's prices. The book is worth four times the cost to any mechanic in any branch whatever. We can send them safely by mail to any part of the Union, and the postage on them will hardly be an item of consideration, in comparison with the utility of the work.

THE MAINE CULTIVATOR says, "We have a vast many agricultural papers in the country, some of which are decidedly excellent, but none, we believe, better than our own." The "Cultivator" is right. It is in truth *at least equal* to any agricultural paper in the United States, and should be extensively patronized beyond the limits of Maine.

CITY IMPROVEMENT.—The Committee of the Board of Aldermen, have reported in favor of opening, widening, and straightening William street, and extending the same to Chatham street. This measure will greatly improve the general appearance of the lower part of the city.

Bethany.

Bethany was a favorite resort of mine; the affeeting history of Lazarus was especially impressed on my heart, now that I was in the vicinity where the transaction took place. It is at present a wretched Arab village, situated about a mile and a quarter from Jerusalem. The course I generally pursued in my visits to it from the Latin convent, where I resided, was by the Via Dolorosa, and through the gate of St. Stephen on the East side of the city, over the brook Kedron, ascending the Mount of Olives by the same road which David went up when cursed by Shimei; this leads by the garden of Gethsemane, and the tomb of the blessed virgin crossed the place of our Savour's ascension, and, on the descent on the other side of the Mount of Olives, entered the village of Bethany amidst the barking of ugly hyœna-like dogs, which are an abundant nuisance in Syria and Turkey, whilst at the same time assailed by children screeching "Hadjee Baugh-sheese." In a lane as you enter the village by the Jerusalem side, a lonely and neglected spot, the tomb of Lazarus is shown. A doorway of masonry covering the face of the rocky cavern. The original orifice may still be discerned against which the stone was laid The cave is very deep, and at present is descended by a numerous flight of steps. St. John well expresses it when he says, "Jesus cried with a loud voice, Lazarus, come forth." Farther on, in this most melancholy looking village, is a wretched little mosque, which I would suppose to be the site of the house occupied by Mary and Martha: though there are two large gable-ends of a once respectible-looking edifice, which are pointed out as having been their residence. This village of Bethany, the favorite resting place of our blessed Saviour, I constantly resorted to every week whilst in Jerusalem. The never-to-be-forgotten circumstance of the resurrection of Lazarus, and the manner in which St. John describes it, together with its being the district from whence our Lord ascended, so interested my affections, that, in my walks about the city, my footsteps always tended hither. From the Bethany side of the Mount of Olives there is a fine view of the Dead Sea, over which hang the dark blue mountains of Moab. One would suppose he could just drop down Bethany, and in an evening's walk reach the Dead Sea; yet it is twenty-two miles distant; the intervening desert is arid and desolate in the extreme, and moreover, still considered dangerous from predatory Arabs. In the time of Lot, part of the vale, now a desert, was called Sideim or Chalk, and this is still manifest where the chalky district commences on that side of the Mount of Olives, which verges toward the desert of the Dead Sea. Sometimes I returned from Bethany to Jerusalem by the low road, round the Mount of Olives, through the village of Siloam, crossing the valley of Jehoshaphat, and so entering the city near the spot where our Lord instituted the last Supper, which is on Mount Sion.—*Burton's Voyage.*

THE BLESSINGS OF CHRISTIANITY.—A beautiful writer says, that Christianity enters the hut of the poor man, and sits down with him and his children; it makes them contented in the midst of privations, and leaves behind an everlasting blessing. It walks through the cities amidst all their pomp and splendor, their imaginable pride, aud their unutterable misery, a purifying, ennobling, redeeming angel. It is alike the beautiful champion of childhood, and the comforting associate of old age. It ennobles the noble, gives wisdom to the wise, and new grace to the lovely. The patriot, the minister, poet, and eloquent man, derive sublime power from its influence.

COMPASSION.—Compassion is an emotion of which we ought never to be ashamed. Graceful, particularly in youth, is the tear of sympathy, and the hearts that melts at the tale of wo. We should not permit ease and indulgence to contract our affections, and warp us up in a selfish enjoyment; but we should accustom ourselves to think of the distresses of human life; of the solitary cottage; the dying parent; and the weeping orphan.

PRAYING MACHINES.—On the high roads in Japan, every mountain and cliff is consecrated to some divinity, to whom travellers are required to address long prayers; but as this would require much time, many have adopted the custom of writing some forms of prayer, and elevating the same on a simple sort of wind-wheel, on the top of a staff, so that the wind may keep it in motion, which is deemed equivolent to a repetition of the prayer.

BURNING BIBLES.—Do the people know and believe and realize, that in this enlightened State of New York, and in the present enlightened age, there is a popular and powerful association who make it a practice, even on public occasions, to *collect and burn* all they can obtain, of the *Bibles* which the Bible Societies have been circulating and distributing amongst the poor people of the country? Yet such is the fact: and several hundreds of such bibles were thus destroyed by *public bonfire* recently, in the town of Champlain, in this State.

PRECEPT VS. PRACTICE.—Dr. Clark, in his note on Matt. xii, 2, that "An intollerant and censorious spirit is one of the greatest curses a man ean well fall under;" and this remark is approved and quoted by the very men who would be most zealous in destroying or punishing all imaginary heretics.

COLORED PEOPLE OF CINCINNATI.—The Presbyterian of the West states that there are about 2000 colored persons in Cincinnati, who own real estate, besides other property, which is valued at $150,000. They have recently established a paper entitled "The Colored Citizen," which is said to be edited with considerable ability.

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Dec. 25.

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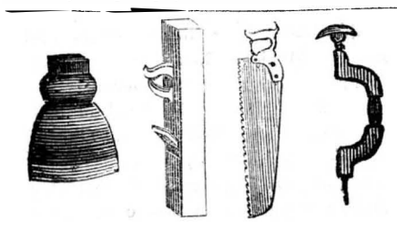

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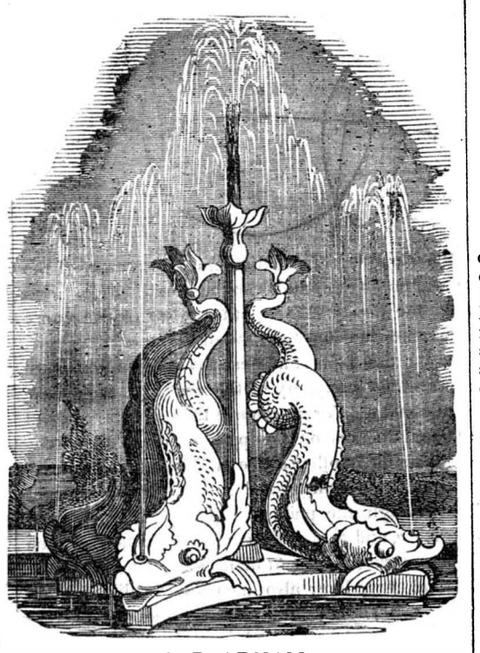

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" Lamb,	6d	Lamb Pot Pie,	6d
" Pig,	12d	Fried Fish,	6d
Boiled Chicken,	12d	Fried Clams,	6d
" Mutton,	6d	Ham and Eggs,	12d
" Corned Beef,	6d	Chicken Soup,	6d
" Pork,	6d	Beef Soup,	6d
" Fish,	6d	Coffee,	6d

Dessert.

Suet Pudding	6d	Mince Pie,	6d
Indian Pudding,	6d	Apple Pie,	6d
Rice Pudding,	6d	Peach Pie,	6d
Plum Pudding,	6d	Plum Pie,	6d
Bread Pudding,	6d	Pumpkin Pie,	6d
Apple Dumplings,	6d	Custard Pie,	6d

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MANUFACTORY, 189 Broadway, N. Y. nov9.

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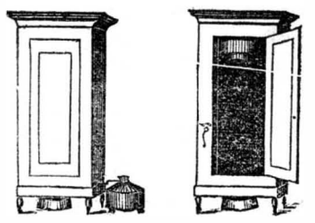

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